

REMARKS

The present Amendment amends claims 21, 22, 26 and 27, cancels claim 24 and leaves claims 23 and 25 unchanged. Therefore, the present application has pending claims 21-23 and 25-27.

Claims 21-23 and 25-27 stand rejected under 35 USC §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regards as their invention. Various amendments were made throughout claims 21-23 and 25-27 to bring them into conformity with the requirements of 35 USC §112, second paragraph. Therefore, this rejection with respect to claims 21-23 and 25-27 is overcome and should be withdrawn.

Specifically, amendments were made throughout claims 21-23 and 25-27 to overcome the objections noted by the Examiner in the Office Action.

Claim 24 stands rejected under 35 USC §102(b) as being anticipated by Mashayekhi (U.S. Patent Application Publication No. 2003/0074596); and claims 21-23 and 25-27 stand rejected under 35 USC §103(a) as being unpatentable over Mashayekhi in view of Bruning, III (U.S. Patent Application Publication No. 2002/0035667) and Wong (U.S. Patent Application Publication No. 2001/0051955). As indicated above, claim 24 was canceled. Therefore, the 35 USC §102(b) rejection of claim 24 is rendered moot. Accordingly, reconsideration and withdrawal of the 35 USC §102(b) rejection of claim 24 is respectfully requested.

It should be noted that the cancellation of claim 24 was not intended nor should it be considered as an agreement on Applicants part that the features recited in claim 24 are taught or suggested by Mashayekhi. The

cancellation of claim 24 was simply intended to expedite prosecution of the present application. Applicants hereby reserve their right to pursue the subject matter as set forth in claim 24 in a continuing application.

The 35 USC §103(a) rejection with respect to the remaining claims 21-23 and 25-27 is traversed for the following reasons. Applicants submit that the features of the present invention as now recited in claims 21-23 and 25-27 are not taught or suggested by Mashayeki, Bruning, III or Wong whether taken individually or in combination with each other as suggested by the Examiner. Therefore, Applicants respectfully request the Examiner to reconsider and withdraw this rejection.

Amendments were made to the claims to more clearly describe features of the present invention as recited in the claims. Particularly, amendments were made to the claims to recite that the present invention is directed to a storage system, namely a first storage system, connected, via a network, to a computer and a second storage system.

According to the present invention the first storage system includes a first storage device which stores data related to a first file system, a first controller which provides the first file system and a second file system to a computer and a second controller for controlling input/output operations to/from the second storage system with location of data related to the second file system.

Further, according to the present invention the first controller mounts a route directory of the second file system at a mount point in a first storage system such that the first and second file systems are provided to the computer as a single directory tree and the second controller accesses to the

second storage system with a command representing an area where the data is stored in the second storage system.

Still further, according to the present invention the first storage system is coupled to the second storage system via a storage area network (SAN) and communicates therewith according to a block input/output (I/O) interface and the first storage system is connected to the computer via a local area network (LAN) and communicates therewith according to a file I/O interface.

Thus, with respect to a first feature of the present invention a first storage system, accessed from the computer according to the file I/O interface, provides the first file system and the second file system to the host, wherein data of the second file system is stored in the second storage device contained in the second storage system accessed by the block I/O interface. Thus, according to the present invention, the storage capacity of the second storage system accessed by the block I/O interface can be used to access according to the file I/O interface.

Further, with respect to a second feature of the present invention the directory of the second file system in which data is stored by the second storage device of the second storage system, accessed by the block I/O interface, is mounted at the mount point of the first file system. According to this feature, both the second file system in which data is stored by the second storage system accessed by the block I/O interface and the first file system in which data is stored by the first storage system accessed by the file I/O interface can be provided to the host as a single directory tree.

The above described features of the present invention now more clearly recited in the claims are not taught or suggested by any of the

references of record whether said references are taken individually or in combination with each other. Particularly, the above described features of the present invention as now more clearly recited in the claims are not taught or suggested by Mashayekhi, Bruning or Wong whether said references are taken individually or in combination with each other as suggested by the Examiner.

Mashayekhi discloses that the controller 18 of the server B accesses data of the storage device 15 coupled to the server A. Mashayekhi relates to the duplicate system in which both the servers A and B execute the write operations. Thus, since each of the servers A and B stores the same data, it is not necessary for the controller 18 of the server B to access data of the storage device 15 coupled to the server A. Mashayekhi is also made based on the duplicate system in which both the servers A and B execute the write operations, and so this description does not teach or suggest that the controller 18 of the server B accesses data of the storage device 15 coupled to the server A.

Based on the above, it is quite clear that Mashayekhi fails to teach or suggest a relationship which is formed by mounting a route directory of the second file system at a mount point in the first storage system such that the first and second file systems are provided to the computer as a single directory tree. This feature of the present invention allows for the computer to access data in either the first storage device or the second storage device by accessing the first storage system which includes the single directory tree.

Further, Mashayekhi fails to teach or suggest the relative connections between the first and second storage systems and the computer as in the

present invention. According to the present invention the first storage system is coupled to the second storage system via a SAN and communicates with the SAN using the block I/O interface and the first storage system is coupled to the computer via a LAN and communicates with the computer according to the file I/O interface. At no point is there any teaching or suggestion of these features in Mashayekhi.

Thus, Mashayekhi fails to teach or suggest that the first controller mounts a route directory of the second file system at a mount point in the first storage system such that the first and second files systems are provided to the computer as single directory tree and that the second controller accesses to the second storage system with a command representing an area where the data is stored in the second storage system as recited in the claims.

Further, Mashayekhi fails to teach or suggest that the first storage system is coupled to the second storage system via a SAN and communicates therewith according to a block I/O interface and that the first storage system is coupled to the computer via a LAN and communicates therewith according to a file I/O interface as recited in the claims.

The above described deficiencies of Mashayekhi are not supplied by any of the other references of record particularly Bruning and Wong.

Bruning is merely relied upon by the Examiner for an alleged teaching of details associating with the logical volume which the Examiner admits are not taught or suggested by Mashayekhi.

Wong is merely relied upon by the Examiner for an alleged teaching of details of mounting a file system particularly several file systems across a network of storage systems. In fact, Wong teaches a technique of providing

mirror file system (MFS) which is a virtual file system that links two or more file systems. Attention is directed to the description as set forth in the Abstract of Wong.

However, it is quite clear from the above that neither Bruning or Wong teach or suggest the above described deficiencies of Mashayekhi relative to the features of the present invention as now more clearly recited in the claims.

Thus, each of Mashayekhi, Bruning and Wong fails to teach or suggest that the first controller mounts a route directory of the second file system at a mount point in the first storage system such that the first and second file systems are provided to the computer as a single directory tree and that the second controller accesses to the second storage system with a command representing an area where the data is stored in the second storage system as recited in the claims.

Further, each of Mashayekhi, Bruning and Wong fails to teach or suggest that the first storage system is coupled to the second storage system via a SAN and communicates therewith according to a block I/O interface and that the first storage system is coupled to the computer via a LAN and communicates therewith according to a file I/O interface as recited in the claims.

Therefore, since each of Mashayekhi, Bruning and Wong fails to teach or suggest the features of the present invention as now more clearly recited in the claims, combining Mashayekhi with Bruning and Wong in the manner suggested by the Examiner in the Office Action does not render obvious the claimed invention. Accordingly, reconsideration and withdrawal of the 35

USC §103(a) rejection of claims 21-23 and 25-27 as being unpatentable over Mashayekhi in view of Bruning and Wong is respectfully requested.

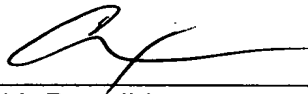
The remaining references of record have been studied. Applicants submit that they do not supply any of the deficiencies noted above with respect to the references utilized in the rejection of claims 21-3 and 25-27.

In view of the foregoing amendments and remarks, applicants submit that claims 21-23 and 25-27 are in condition for allowance. Accordingly, early allowance of claims 21-23 and 25-27 is respectfully requested.

To the extent necessary, the applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to the deposit account of MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C., Deposit Account No. 50-1417 (500.43772X00).

Respectfully submitted,

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